

2. (Amended) The semiconductor laser device of Claim 1, further comprising:
a reflection coating positioned at a first end of said active layer and substantially
perpendicular thereto; and
an antireflective coating positioned at a second end of said active layer opposing said
first end and substantially perpendicular to said active layer,
wherein said reflection coating and said antireflective coating define a resonant cavity
within said active region.

3. (Amended) The semiconductor laser device of Claim 2, wherein a length of said
resonant cavity is at least 800 μ m.

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cont'd. 4. (Amended) The semiconductor laser device of Claim 2, wherein a length of said
resonant cavity is not greater than 3200 μ m.

5. (Amended) The semiconductor laser device of Claim 1, wherein said diffraction
grating is formed substantially along an entire length of said active layer.

6. (Amended) The semiconductor laser device of Claim 5, wherein said diffraction
grating comprises a plurality of grating elements having a constant pitch.

7. (Amended) The semiconductor laser device of Claim 5, wherein said diffraction
grating comprises a chirped grating having a plurality of grating elements having fluctuating
itches.

8. (Amended) The semiconductor laser device of Claim 7, wherein said chirped
grating is formed such that a fluctuation in the pitch of said plurality of grating elements is a
random fluctuation.

9. (Amended) The semiconductor laser device of Claim 7, wherein said chirped
grating is formed such that a fluctuation in the pitch of said plurality of grating elements is a
periodic fluctuation.

10. (Amended) The semiconductor laser device of Claim 1, wherein said diffraction grating is a shortened diffraction grating formed along a portion of an entire length of said active layer.

11. (Amended) The semiconductor laser device of Claim 10, wherein said diffraction grating comprises a plurality of grating elements having a constant pitch.

12. (Amended) The semiconductor laser device of Claim 10, wherein said diffraction grating comprises a chirped grating having a plurality of grating elements having fluctuating pitches.

13. (Amended) The semiconductor laser device of Claim 12, wherein said chirped grating is formed such that a fluctuation in the pitch of said plurality of grating elements is a random fluctuation.

14. (Amended) The semiconductor laser device of Claim 12, wherein said chirped grating is formed such that a fluctuation in the pitch of said plurality of grating elements is a periodic fluctuation.

15. (Amended) The semiconductor laser device of Claim 10, further comprising:
a reflection coating positioned at a first end of said active layer and substantially perpendicular thereto; and

an antireflective coating positioned at a second end of said active layer opposing said first end and substantially perpendicular to said active layer,

wherein said reflection coating and said antireflective coating define a resonant cavity within said active region.

16. (Amended) The semiconductor laser device of Claim 15, wherein said shortened diffraction grating is positioned along a portion of the active layer in the vicinity of said antireflective coating.

17. (Amended) The semiconductor laser device of Claim 16, wherein said antireflective coating has an ultra-low reflectivity of approximately 0.1% to 2%.

18. (Amended) The semiconductor laser device of Claim 16, wherein said antireflective coating has an ultra-low reflectivity of approximately 0.1% or less.

19. (Amended) The semiconductor laser device of Claim 16, wherein said reflection coating has a high reflectivity of at least 80%.

20. (Amended) The semiconductor laser device of Claim 16, wherein said shortened diffraction grating has a relatively low reflectivity.

21. (Amended) The semiconductor laser device of Claim 16, wherein said shortened diffraction grating has a coupling coefficient $K \cdot L_g$ of approximately .3 or less.

22. (Amended) The semiconductor laser device of Claim 16, wherein said shortened diffraction grating has a coupling coefficient $K \cdot L_g$ of approximately .1 or less.

23. (Amended) The semiconductor laser device of Claim 15, wherein said shortened diffraction grating is positioned along a portion of the active layer in the vicinity of said reflection coating.

24. (Amended) The semiconductor laser device of Claim 23, wherein said antireflective coating has a low reflectivity of approximately 1% to 5%.

25. (Amended) The semiconductor laser device of Claim 23, wherein said reflection coating has an ultra-low reflectivity of approximately 0.1% to 2%.

26. (Amended) The semiconductor laser device of Claim 23, wherein said reflection coating has an ultra-low reflectivity of approximately 0.1% or less.

27. (Amended) The semiconductor laser device of Claim 23, wherein said shortened diffraction grating has a relatively high reflectivity.

28. (Amended) The semiconductor laser device of Claim 23, wherein said shortened diffraction grating has a coupling coefficient $K \cdot L_g$ of approximately 1 or more.

29. (Amended) The semiconductor laser device of Claim 23, wherein said shortened diffraction grating has a coupling coefficient $K \cdot L_g$ of approximately 3 or more.

30. (Amended) The semiconductor laser device of Claim 15, wherein said shortened diffraction grating comprises a first shortened diffraction grating positioned along a portion of the active layer in the vicinity of said antireflective coating, and a second shortened diffraction grating positioned along a portion of the active layer in the vicinity of said reflection coating.

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Cont'd. 31. The semiconductor laser device of Claim 30, wherein said antireflective coating and said reflection coating have an ultra-low reflectivity of approximately 0.1% to 2%.

32. (Amended) The semiconductor laser device of Claim 30, wherein said antireflective coating and said reflection coating have an ultra-low reflectivity of approximately 0.1% or less.

33. (Amended) The semiconductor laser device of Claim 30, wherein said first shortened diffraction grating comprises a first shortened diffraction grating which has a relatively low reflectivity and second shortened diffraction grating which has a relatively high reflectivity.

34. (Amended) The semiconductor laser device of Claim 30, wherein said first shortened diffraction grating comprises a first shortened diffraction grating having a coupling coefficient $K \cdot L_g$ of approximately .3 or less.

35. (Amended) The semiconductor laser device of Claim 30, wherein said first shortened diffraction grating comprises a first shortened diffraction grating having a coupling coefficient $K \cdot L_g$ of approximately 1 or more.